

September in the area as the unusually warm water in the west central Pacific contributed to increased surface baroclinicity and provided additional latent heat (fig. 4). Namias discusses a similar situation which occurred further east during the fall of 1962 [4].

SEPTEMBER 18-24

A strong ridge began to build over the Pacific Northwest and British Columbia during the 3d full week in September, again sending temperatures far above normal in the area (figs. 10A, B). A closed Low secluded off southern California helped to pump moisture into the Basin, with over 2 in. of rain being observed in southwestern Utah (fig. 10C).

The weather highlight of the week was hurricane Beulah, which attained the status of the second deepest Gulf hurricane of record (27.26-in. surface pressure by drop-sonde) shortly before devastating the southern Texas coast and lower Rio Grande Valley with fierce winds and torrential rains. An extensive area of southern Texas experienced storm totals of over 16 in., with some unofficial readings of up to 30 in. of rain. Additional damage was done by 95 tornadoes spawned by Beulah. Total damage, mostly from flooding, was expected to approach one billion dollars.

A ridge component over the Southeast kept that area rainless (figs. 10A, C), while frontal precipitation spread eastward to New England from the Central Plains.

Doria failed to regain tropical storm intensity, even though a weak circulation center could be traced off the Southeast coast for several days. Perhaps the mean westerly winds in the region were unfavorable for redevelopment even though water temperatures were near or slightly above normal in the general area (figs. 4 and 10A).

Chloe, however, did retain hurricane intensity and was considered to remain tropical as far east as 15° W. at about 43° N. An area of quite warm water west of Portugal may have helped to maintain Chloe's intensity longer than what normally is the case for tropical storms in this area.

Typhoon Sarah curved northward and then rapidly eastward before joining with a polar storm on the 24th to redeepen the Aleutian Low. Another tropical storm, Wanda, which attained typhoon intensity for a few days, moved northward southeast of Japan after making a slow, closed loop (fig. 10A). Two other tropical storms, Monica and Nanette, developed in the eastern Pacific south of the area covered by the map.

SEPTEMBER 25-OCTOBER 1

The circulation pattern over North America amplified during the final week of September (fig. 11A) as the Rockies ridge was reestablished and a deep trough developed southward through the Great Lakes and Ohio Valley. This led to numerous additional records of daily and early season cold in the Midwest and South (table 2) and corresponding record warmth in the Northwest (table 3). Weekly mean temperatures were as much as 9° F. above normal in Nevada and 12° F. below normal in the South (fig. 11B).

An early-season Appalachian storm more typical of November than September moved northward to the eastern Lakes, producing a new September 24-hr. record rainfall of 3.63 in. at Buffalo and setting off flash floods on small streams in western Pennsylvania and New York (fig. 11C). Some areas had up to 6 in. from the storm. Although the surface circulation did not reach great intensity, the deep upper Low and cold air aloft produced graupel at Green Bay, Wis., and traces of snow at Mansfield, Ohio, and Beckley, W. Va. on the 29th. This marked the first time these phenomena had ever been observed at these localities during September.

Only two weak tropical storms were active during the last week of September. Edith was barely more than an easterly wave as she moved through the Antilles, and Amy marked the start of a new run through the alphabet in the western Pacific.

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4. J. Namias, "Large-Scale Air-Sea Interactions Over the North Pacific From Summer 1962 Through the Subsequent Winter," *Journal of Geophysical Research*, vol. 68, No. 22, Nov. 1963, pp. 6171-6186.
5. Environmental Data Service, ESSA, *Weekly Weather and Crop Bulletin*, vol. 54, Nos. 36-41, Sept. 4, 11, 18, 25, and Oct. 2 and 9, 1967, pp. 1-8.

CORRECTION NOTICES, VOLUME 95

- No. 1, Jan. 1967, p. 51: Substitute the corrected map reprinted in vol. 95, No. 4, Apr. 1967, p. 234.
- No. 4, Apr. 1967: p. 218: The last sentence on the page should read ". . . condensation levels were lower over the Bahama Islands . . ." instead of "higher."
- No. 7, July 1967: front cover, Contents, pp. 463-467, authors' names should be M. Wolk, F. Van Cleef, and G. Yamamoto. Also pp. 480-481, author's name should be Frances C. Parmenter.
- No. 8, Aug. 1967: p. 540, left column, entry 5, *Journal of Meteorology* should read *Journal of Applied Meteorology*.
- No. 9, Sept. 1967: p. 607, right column, third paragraph, first sentence should read "The basic wind data were taken from U.S. Navy Oceanographic Office Pilot Chart wind roses." Also fourth paragraph, first sentence should read ". . . U.S. Navy Marine Climatic Atlas of the World, . . ."